

Sept. 23, 1941.

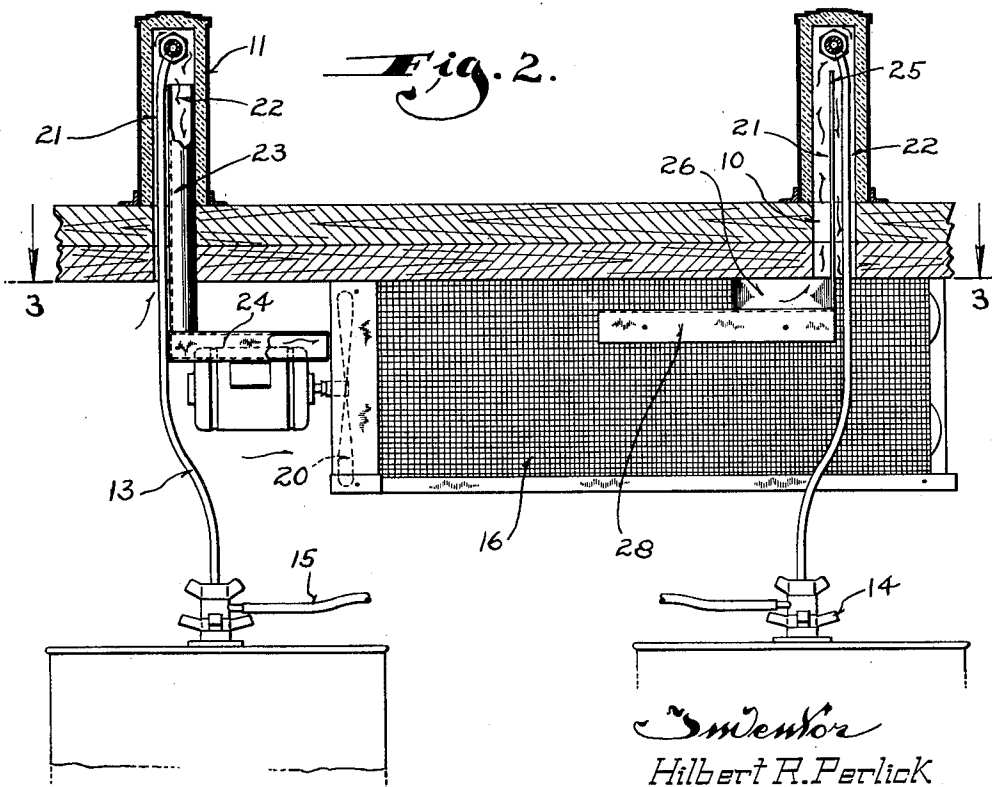
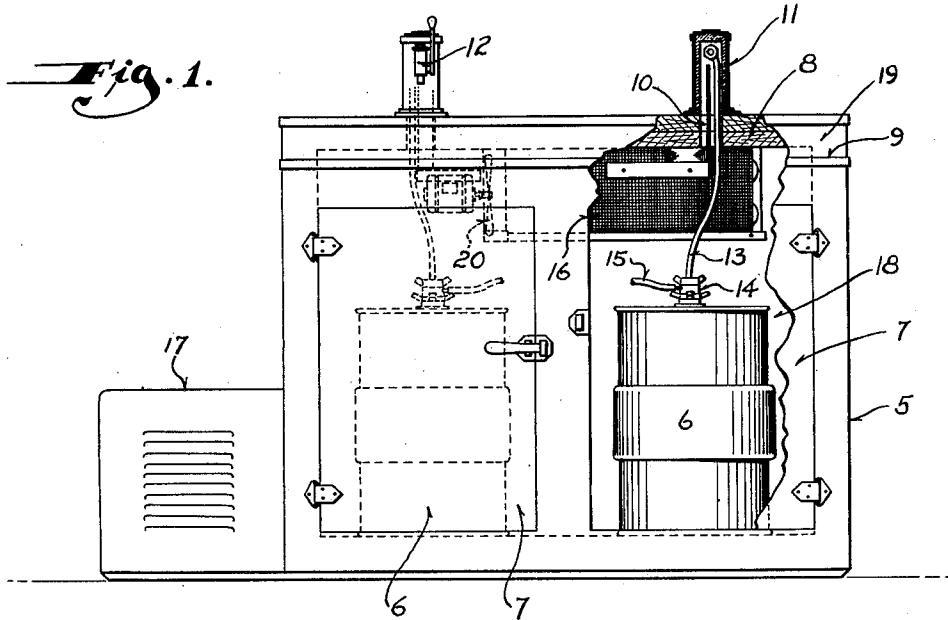
H. R. PERLICK

2,257,070

BEVERAGE DISPENSER

Filed Feb. 23, 1940

2 Sheets-Sheet 1



Mentor
Hilbert R. Perlick
By Drashynton Jones
C. Morney

Sept. 23, 1941.

H. R. PERLICK

2,257,070

BEVERAGE DISPENSER

Filed Feb. 23, 1940

2 Sheets-Sheet 2

Fig. 3.

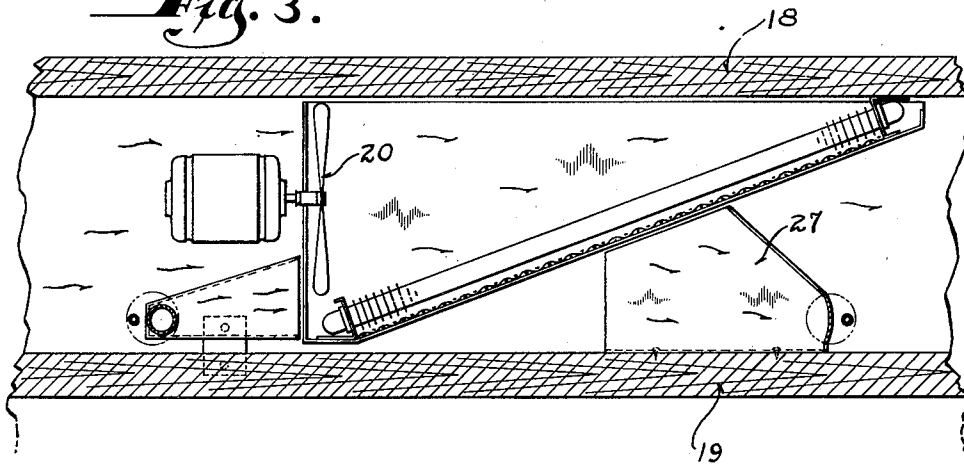
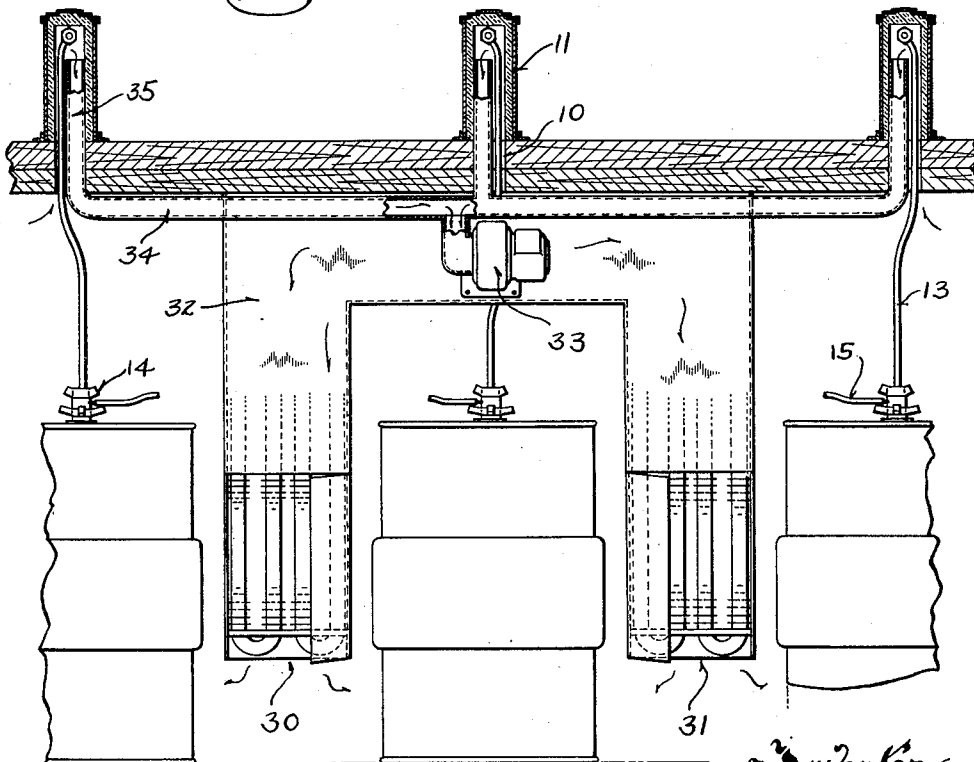


Fig. 4.



Inventor
Hilbert R. Perlick
By *Isidore Jones*
Attorney

UNITED STATES PATENT OFFICE

2,257,070

BEVERAGE DISPENSER

Hilbert R. Perlick, Milwaukee, Wis., assignor to
R. Perlick Brass Company, Milwaukee, Wis., a
corporation of Wisconsin

Application February 23, 1940, Serial No. 320,397

6 Claims. (Cl. 225—40)

This invention relates to improvements in beverage dispensers, and refers particularly to direct draw beer dispensers.

Beer dispensers of this type consist of a suitably refrigerated cabinet in which one or more kegs of beer are placed to be dispensed from faucets mounted at the top of the cabinet and connected with the kegs by relatively short ducts or beer lines. The cabinet top is generally at bar height and serves as a bar or counter over which the beer is served.

To take full advantage of the sales psychology which attends the direct draw method of beer dispensing, the beer should be drawn in plain view of the customer. This requires the dispensing faucets to project up from the top of the cabinet sufficiently to enable a glass to be set thereunder. The faucet standards are, therefore, quite tall.

As a consequence, a substantial length of the duct or beer line which connects each faucet with its respective keg extends outside the cabinet proper; and although the faucet standard is insulated, the warm room temperature soon warms the upper end of the beer line. The first beer drawn after a relatively short period of non-use is thus not at the proper temperature and foam content for optimum palatability.

Many attempts have been made in the past to overcome this disadvantage, but heretofore, nothing practical has been devised.

It is, therefore, the primary purpose of this invention to provide a direct beer dispenser so designed and constructed that the entire duct leading from the keg to the faucet will be kept cold or at the same temperature prevailing inside the cabinet.

More particularly, it is an object of this invention to provide a direct draw beer dispenser wherein the faucets are mounted on hollow insulated standards which enclose the beer line and wherein means are provided for positively circulating cold air from the interior of the cabinet through the hollow faucet standards.

Another object of this invention is to provide means for effecting the desired positive circulation of cold air through the hollow faucet standards which is so constructed that it does not necessitate re-design of the present direct draw dispensers.

With the above and other objects in view which will appear as the description proceeds, this invention resides in the novel construction, combination and arrangement of parts substantially as hereinafter described, and more particularly

defined by the appended claims, it being understood that such changes in the precise embodiment of the hereindisclosed invention may be made as come within the scope of the claims:

The accompanying drawings illustrate two complete examples of the physical embodiment of the invention constructed in accordance with the best modes so far devised for the practical application of the principles thereof, and in which:

Figure 1 is a view in elevation showing the back of a direct draw beer dispenser with parts broken away and in section;

Figure 2 is an enlarged vertical sectional view through the upper portion of the dispenser unit;

Figure 3 is a horizontal sectional view taken through Figure 2 on the plane of the line 3—3; and

Figure 4 is a view similar to Figure 2 illustrating a slightly modified embodiment of the invention.

Referring now particularly to the accompanying drawings, in which like numerals indicate like parts, the numeral 5 designates the cabinet or box of a direct draw beer dispenser which in the embodiment illustrated in Figure 1 is of a size to hold two kegs 6. The kegs are inserted and removed through doorways in the back of the cabinet, closed by doors 7.

The top of the cabinet 8 provides a counter-like service top or bar across which the beer may be served. Along the rear, the cabinet top is preferably stepped, as at 9, with the top of the step constructed as a drain board.

At a point substantially above each keg location, the cabinet top has a hole 10 therethrough and extending up from the top directly over each hole is a hollow insulated faucet standard 11.

Mounted on each faucet standard near the upper end thereof is a dispensing faucet 12. A duct or beer line 13 connected to each faucet inside its hollow standard provides a detachable connection with its respective keg. The connection of the duct to the keg involves the customary tap 14. Pressure is applied to the keg from any suitable source through a pressure line 15 which connects with the tap in the usual manner.

The interior of the cabinet is refrigerated by means of a mechanical refrigerating unit including a heat exchanger 16 through the coils of which a suitable refrigerant is circulated by a compressor (not shown). The compressor may be remotely located but generally it is housed within a small cabinet 17 in juxtaposition to one end of the main cabinet. The manner in which the coils of the heat exchanger are connected

with the compressor forms no part of this invention, and therefore, has not been shown.

The heat exchanger 16 is located in the upper portion of the cabinet and is disposed edgewise and at an angle across the space directly beneath the top wall 8 and between the front wall 18 and the riser 19 of the step 9.

A fan or blower 20 supported in any suitable manner within the cabinet induces a circulation of air through the heat exchanger and around the interior of the cabinet.

Heretofore, attempts were made, as shown in the copending application of Hilbert R. Perlick, Serial No. 257,430, to have the interior of the faucet standard at the same temperature of the cabinet interior but all expedients previously proposed have fallen short of accomplishing this desideratum.

The present invention, however, insures the maintenance of the same temperature within the hollow faucet standard as prevails within the cabinet. To this end, air is forced to circulate from the cabinet interior through the hollow faucet standards by dividing each standard into two passages 21 and 22 connected at the top where the ducts 13 connect with the faucets, and directing cold air from the cabinet up one passage and down the other.

It is to be observed that the heat exchanger extends crosswise between the faucet standard locations so that one standard is in front of the heat exchanger and the other behind the heat exchanger, and that the fan or blower is likewise positioned between the two standards.

In the faucet standard which is located in front of the fan and heat exchanger, the passage forming means comprises an air duct 23 which extends up through the adjacent hole 10 and into the hollow faucet standard with the lower end portion thereof projecting a substantial distance beneath the top wall 8. The lower end of this duct connects with the small end of a suction mouth or chamber 24, the large open end of which terminates adjacent to the back of the fan.

Hence, the fan or blower draws the air down through the duct 23 and out through the chamber 24, thereby causing cold air from the cabinet interior to flow into the faucet standard to the extreme top thereof.

The means by which the other faucet standard is divided into the two passages 21 and 22 consists of a longitudinal partition wall 25 extending up through the adjacent hole 10 and into the hollow standard to a point near the top thereof. The lower end of this partition projects beneath the top wall 8 and forms the closed end of a scoop 26 mounted to collect some of the air issuing from the heat exchanger and direct it up through the passage 21 to the top of the faucet standard.

It is to be observed that the top wall 8 serves as a top for the scoop and that the bottom wall 27 thereof lies in a plane parallel to the top wall and has an integral flange 28 by which the scoop is fastened to the wall 19.

Attention is also directed to the fact that the front wall 18 of the cabinet and the wall 19 which forms the riser of the step 9 coact with the top wall to form a trough or duct open at the bottom and that the heat exchanger extends diagonally across this trough or duct. Hence, the air currents are guided and directed to pass through the heat exchanger without in anywise complicating the design or construction of the dispenser.

In the modified embodiment of the invention illustrated in Figure 4, the cabinet is large enough to hold three kegs; and the heat exchanger is divided into two sections 30 and 31 which extend down from the top of the cabinet into the space between the adjacent kegs, as shown.

The upper portions of these heat exchanger sections are enclosed in suitable ducts 32 with which the outlet of a blower 33 connects so that the air is positively circulated over the heat exchanger.

The inlet of the blower has an air duct 34 connected thereto from which branches 35 rise to extend into the faucet standards and divide the same into the two passages 21 and 22, as in the construction previously described.

Consequently, suction is established at the upper end of each faucet standard which draws cold air up from the cabinet interior to keep the beer lines cold throughout their entire length.

From the foregoing description taken in connection with the accompanying drawings, it will be readily apparent that this invention provides a practical manner of positively circulating cold air through the hollow faucet standards of a direct draw beer dispenser to insure all portions of the beer lines being kept at the same temperature.

I claim:

1. In a direct draw beer dispenser, the combination of: a floor type cabinet adapted to hold a keg of beer and having its top wall at counter height to enable beer to be dispensed across said top wall and so that said top wall is spaced but a short distance from the top of a keg in the cabinet, and having an opening in an exterior wall thereof; a short beer line leading from the interior of the cabinet where it is connectible to a keg out through the opening and projecting a substantial distance outside said exterior wall; a hollow faucet standard mounted on said exterior wall over the opening to receive and enclose the entire projecting end of the beer line; a faucet mounted on the standard and connected to the end of the beer line inside the hollow standard, the interior of the hollow standard presenting a constricted air pocket which, although communicated with the interior of the cabinet through said opening, is substantially isolated from the cabinet interior and subjected to the temperature of the atmosphere exteriorly of the cabinet regardless of the temperature inside the cabinet; means for refrigerating the interior of the cabinet; a blower for circulating the air within the cabinet and maintaining uniform temperature throughout all parts of the cabinet interior; means forming inlet and outlet passages communicated with the interior of the cabinet and communicated with each other inside the hollow faucet standard adjacent to the connection of the faucet with the beer line, that portion of the beer line which projects into the hollow standard being within one of said passages; and means on the passage forming means and extending into the path of the air moved by the blower for rendering the blower effective to cause circulation of air from the cabinet interior into the inlet and out of the outlet passage.

2. In a beer dispenser of the character described: a floor type cabinet having a counter-like top wall over which beer is dispensed and adapted to hold a keg of beer in the cabinet space beneath said top wall, one of the exterior walls of the cabinet having a hole therethrough;

a hollow faucet standard mounted on said exterior wall over said hole so that the interior of the standard has direct communication with the interior of the cabinet through said hole; a faucet on the standard; a duct connected with the faucet inside the standard and extending through the standard and the hole for connection with the beer keg inside the cabinet; means in the cabinet for refrigerating the interior of the cabinet including a heat exchanger disposed substantially directly beneath said counter-like top wall and at an angle to the front and back walls of the cabinet; a blower mounted to circulate the air throughout the cabinet with a stream of air moving from end wall to end wall along the top of the cabinet so as to pass through the heat exchanger; means disposed within the hollow standard to divide the interior thereof into spaced passages connected at the top adjacent to the connection of the faucet with the duct, said means extending through the hole and into said stream of the air flowing along the top of the cabinet; and means on the lower end of said last named means cooperating with the blower for insuring circulation of air from the cabinet interior into the hollow standard through one of the spaced passages and out through the other.

3. In a direct draw beer dispenser, the combination of: a floor type cabinet having a counter-like top wall over which beer is dispensed and adapted to hold a plurality of beer kegs in a row in the cabinet space beneath said top wall, said top wall having holes therethrough equal in number to the number of kegs for which the cabinet is designed; hollow faucet standards mounted on the top wall one above each of said holes so that their interiors are in direct communication with the interior of the cabinet; faucets on said standards; beer lines connected with the faucets inside the standards and extending down through the standards and the holes for connection with the beer kegs inside the cabinet; means in the cabinet for refrigerating the interior thereof including a heat exchanger having a section thereof positioned to be between two adjacent kegs; means extending upwardly from the interior of the cabinet through said holes and into the hollow standards to divide each standard into two passages connected at their upper ends; a blower for effecting forced circulation of air over said heat exchanger and throughout the cabinet interior; means connecting the outlet of the blower with the heat exchanger and constraining the flow of air passing over the heat exchanger down through said section of the heat exchanger to be expelled near the bottom of the adjacent kegs; and means connecting one passage of each standard with the inlet of the blower so that the blower sucks warmed air from the upper portions of the standards and effects a positive circulation of air up one passage of each standard and down the other.

4. In a direct draw beer dispenser: a floor type cabinet adapted to hold a keg of beer and having a top wall at counter height over which beer is dispensed, said top wall having a hole therethrough; a hollow faucet standard mounted on the counter-height top wall over said hole so that the interior of the standard has direct communication with the interior of the cabinet; a faucet mounted on the upper end portion of the standard; a duct connected with the faucet inside the hollow standard and extending therethrough

and through said hole for connection with the beer keg inside the cabinet; means within the hollow standard dividing the same into two longitudinal passages connected at their upper ends adjacent to the connection of the duct with the faucet; a heat exchanger mounted in the upper portion of the cabinet adjacent to the hole in the counter-height top wall; a blower in the cabinet for circulating the air throughout the cabinet past the hole in said counter-height top wall and through the heat exchanger; and means on the lower end of the passage forming means directly beneath the counter-height top wall and rendered effective by the blower for producing a flow of refrigerated air from the cabinet interior up into one of said passages and back down through the other.

5. In a direct draw beer dispenser, the combination of: a floor-type cabinet having a counter-like top wall over which beer is dispensed and adapted to hold three beer kegs in a row in the cabinet space beneath said top wall, said top wall having three holes therethrough; hollow faucet standards mounted on the top wall one above each of said three holes so that their interiors are in direct communication with the interior of the cabinet; faucets on said standards; beer lines connected with the faucets inside the standards and extending down through the standards and the holes for connection with the beer kegs inside the cabinet; means in the cabinet for refrigerating the interior of the cabinet including a heat exchanger having two sections spaced apart to embrace the center one of the three kegs and to be positioned between the center keg and the two side kegs; means extending upwardly from the interior of the cabinet through said holes and into the hollow standards to divide each standard into two passages connected at their upper ends; a blower for effecting forced circulation of air over said heat exchanger; and means connecting one passage of each standard with the inlet of the blower so that the blower sucks warmed air from the upper portions of the standards and effects a positive circulation of air up one passage of each standard and down the other.

6. In a direct draw beer dispenser, the combination of: a floor type cabinet having a top wall at counter height over which beer is served, said top wall having two spaced holes therethrough and the cabinet being adapted to hold at least two kegs of beer; a hollow faucet standard mounted on the top wall over each hole so that the interiors of the standards have direct communication with the interior of the cabinet; a faucet mounted on the upper portion of each standard; a duct connected with each faucet inside its standard and extending down into the cabinet for connection with a keg; a heat exchanger in the cabinet directly under the top wall and between the holes therein; a blower for circulating the air throughout the cabinet with the air moving in a path along the underside of the top wall past one hole, through said heat exchanger, and past the other hole; means dividing the interior of each hollow faucet standard into longitudinal inlet and outlet passages connected at their upper ends adjacent to the top of the standard; and means at opposite sides of the heat exchanger responsive to the flow of air through the heat exchanger for producing a flow of air from the cabinet interior into one passage and out the other passage of each hollow standard.

HILBERT R. PERLICK.